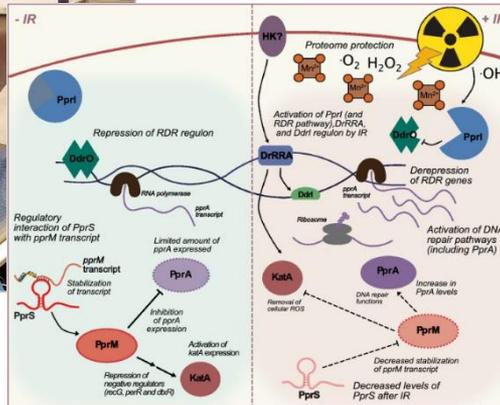


In vitro modeling of skin microbiome



In vivo characterization of radiation response (Villa et al., 2021)

Project Overview

- Our approach focuses primarily on genomic and proteomic signatures based on signatures in the human microbiome and virome as well as similar signatures from the host
- We utilize a proprietary *in vitro* model system to establish signatures and appropriate time frames early in the project, followed by *in vivo* studies to validate models
- Adopt a multi-omic approach to assess various signatures of low dose radiation exposure and employ statistical frameworks to integrate data and predict exposure states from non-invasive or trace samples

Teaming Overview and Capabilities

- SigSci has experience in human forensic analysis, microbiome analysis, genomics, proteomics, and biomarker discovery efforts following exposure to CBRNE threats
- The Contreras lab has experience in characterizing RNA-mediated regulation pathways that are affected by radiological exposures at relevant doses relevant to TEI-REX
- Institutional access to IRB, animal facilities/IACUC, and laboratories focused on genomic, proteomic, and other small molecule/metabolomic analysis
- SigSci has performed as a prime contractor on numerous IARPA programs including Proteos, FunGCAT, MAEGLIN, and multiple seedling efforts

Teaming Needs

- Open to collaborators with experience in:
 - Biodosimetry and radiation biology
 - Radiation dosimetry/health physics
 - Novel “-omics” approaches to integrate into a multi-omic approach
 - Access to relevant samples